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NAS WHITING FIELD
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MONTHLY PROGRESS REPORT FOR PHASE 2A REMEDIAL INVESTIGATIONS DURING
AUGUST 1993 WITH TRANSMITTAL NAS WHITING FIELD FL
9/7/1993
ABB ENVIRONMENTAL



03.04.00.0018

1D-00198

September 7, 1993

Commanding Officer
ATTN: Jeff Adams
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
Charleston SC 29411-0068

**SUBJECT: Monthly Progress Report
Remedial Investigation - Phase IIA
Naval Air Station Whiting Field, Milton, Florida
Contract Task Order 050
Contract N62467-89-D-0317**

Dear Jeff:

Enclosed please find the monthly progress report for the Remedial Investigation (Phase IIA) work conducted at NAS Whiting Field during August 1993.

If you have any questions, please call me at 904-656-1293 (ext. 314).

Very truly yours,

ABB ENVIRONMENTAL SERVICES INC.

Rao V.R. Angara
Task Order Manager

cc: File: 7560-- (11.2.1)
Eric Blomberg, ABB-ES (w/o attachments)
Jim Holland, NASWF (w/o attachments)
Robert Pope, USEPA (w/o attachments)
John Bleiler, ABB-ES (w/o attachments)
Field Trailer (w/o attachments)
Charlie Manos, ABB-ES (w/o attachments)

ABB Environmental Services Inc.

MONTHLY PROGRESS REPORT
Naval Air Station Whiting Field
August 1993

A. TECHNICAL DESCRIPTION OF TASKS CONDUCTED DURING THIS REPORTING PERIOD

I. Data Validation: All analytical data submitted to C.C. Johnson and Malhotra, for NEESA Level C and Level D validation per USEPA and NEESA validation guidelines, has been received. Data is being added to the NAS Whiting Field database and sorted to prepare data releases for assessment of PARCC parameters for the various sampling events.

II. Elevation and Location Survey: Northwest Florida Engineering has been subcontracted to conduct the elevation and location survey at NAS Whiting Field. The subcontractor is preparing to survey all monitoring well locations during the next reporting period. The survey data is expected to be received in October 1993.

III. Monitoring Well Installation: The monitoring well installation program was initiated in January/February 1993. The installation of all monitoring wells has been completed. Other miscellaneous tasks (protective posts, pads, developing wells) will be completed during the next reporting period. Attachment A presents the shift reports submitted by the FOL for all work completed in August 1993.

IV. Record Search: The record search (part 2) was conducted during this reporting period. The objective of this task was to obtain information on additional areas identified by the NAS Whiting Field personnel and obtain aerial photographs requested by the regulatory agencies. A report summarizing the findings of this effort will be submitted to the Navy during the next reporting period.

V. Soil Sampling: As requested by the USEPA and FDER, soil samples were collected from the Site 12 (Tetraethyl Lead Site) and submitted to the laboratory (CH2MHILL) for analysis. The data obtained from this sampling episode will assist the 'No Further Action' proposed for Site 12.

B. STATUS OF WORK TO DATE

- Geophysical survey field program has been completed. The final technical report was submitted to the regulatory agencies on February 17, 1993. Response to comments were prepared and presented to the TRC members on 20 May 1993.

- The soil gas survey field program has also been completed. The final technical report was submitted to the regulatory agencies on 10 March 1993.
- The surface water and sediment sampling task has been completed. The Draft Technical Memorandum No. 1 (Surface Water and Sediment Assessment) was submitted to SDIV on 18 March 1993, the Final Draft Technical Memorandum was submitted to the regulatory agencies on 14 April 1993, and the Final document was submitted to all TRC members on 30 July 1993.
- The final record search (part 1) document was submitted to SDIV in September 1992.
- Test pitting operations (field work), as proposed in RI Phase I Technical Memorandum No. 6, have been completed.
- PCPT/BAT activities were completed on November 4, 1992. Seven PCPT soundings and 14 BAT samples were collected as planned. The Level E data was presented in the January 1993 monthly progress report.

A data release presenting the PCPT/BAT analytical data was submitted to the Navy on June 26, 1993. The data release presents a summary of the findings of this task.

- Data validation for surface soil, subsurface soil, surface water, and sediment sample data has been completed by C.C. Johnson and Malhotra.
- Elevation and location survey of geophysical survey, soil gas survey, soil sampling locations, test pit locations, PCPT/BAT locations, and soil boring locations has been completed.
- The soil boring program, as proposed in Technical Memorandum No. 6 (Phase I), was completed on 27 January 1993.
- The monitoring well installation program, as proposed in Technical Memorandum No. 6 (Phase I), was initiated in January/February 1993.

- The second TRC meeting was held on 20 May 1993 at NAS Whiting Field. The purpose of the meeting was to discuss the status of the field program and discuss the results and findings presented in the Technical Reports and the Technical Memorandum No. 1. The status of the Clear Creek Floodplain investigation was also discussed during this meeting.

C. PROBLEMS ENCOUNTERED DURING REPORTING PERIOD

- None

D. ACTIVITIES PLANNED FOR NEXT MONTH

- TFMR and Monthly Progress Report.
- Prepare for groundwater sampling.
- Complete Monitoring Well Installation Program.
- Data Management and Evaluation.
- Photography/Video Documentation.
- Elevation Location Survey.
- Prepare Data Releases.
- Initiate Water Level Measurement task.

E. SCHEDULED DELIVERABLES FOR SEPTEMBER 1993

- TFMR
- Monthly Progress Report.

F. CORRESPONDENCE AND DOCUMENTS RECEIVED

- None

G. COST IMPACTS

- None

H. SAMPLING AND ANALYSIS RESULTS

- Yes (Site 12 soil data)

I. LABORATORY MONTHLY PROGRESS REPORTS

- None

J. PLANNED CHANGES IN PERSONNEL AND THEIR QUALIFICATIONS

- The project team comprises of the following personnel.

Rao Angara, Task Order Manager
Eric Blomberg, Technical Leader
Dr. Willard Murray, Technical Director
Salvatore Consalvi, Field Operations Leader
Kathleen Hodak, Project Assistant
Gopi Kanchibhatla, Associate Engineer
John Bleiler, Senior Scientist (Ecologist)
Keith Peterson, Graphics and Photography
David Daniel, Public Health Specialist
Roger Protzman, Associate Engineer
Felix Rizk, Geologist

Dr. Marland Dulaney (Senior Toxicologist) has joined the NAS Whiting Field team.

K. PERCENT COMPLETION

Task	Title	% Complete
1	Project Management	43
2	Field Preparation	60
3	Geophysical Survey	100
4	Soil Gas Survey	100
5	Surface Water and Sediment Sampling	100
6	Test Pitting	90
7	Soil Sampling	75 (Subsurface & Surface Soil Sampling Completed, Data Assessment is ongoing)
8	PCPT/BAT	100
9	Soil Boring and Monitoring Well Installation	80
10	Groundwater Sampling	0
11	Water Level Measurement	0
12	Elevation and Location Survey	70
13	Ecological Survey	55
14	Data Validation	70
15	Photography Support	70
16	Technical Memoranda Preparation	14
17	Contamination Assessment Report	0
18	Groundwater Modeling	0

Note: Photography support effort includes videotaping and photographing geophysical survey, soil gas survey, and surface water and sediment sampling events.

L. TARGET/ACTUAL COMPLETION DATES (by task)

Task	Title	Scheduled	Actual
1	Project Management	3-30-92 to 4-30-94	Started 3-30-92
2	Field Preparation	4-23-92 to 4-30-94	Started 4-23-92
3	Geophysical Survey	5-28-92 to 5-31-93	5-28-92 to 2-26-93
4	Soil Gas Survey	6-26-92 to 6-30-93	6-26-92 to 3-10-93
5	Surface Water and Sediment Sampling	7-6-92 to 8-1-92	7-6-92 to 8-1-92
6	Test Pitting	9-14-92 to 10-9-92	9-14-92 to 10-9-92
7	Surface Soil Sampling	8-3-92 to 11-10-92	8-3-92 to 10-31-92
8	PCPT/BAT	11-5-92 to 12-28-92	10-12-92 to 11-4-92
9	Soil Boring & Well Installation	1-4-93 to 2-4-94	Started 12-1-92
10	Groundwater Sampling	2-7-94 to 6-30-94	Not Started
11	Water Level Measurement	5-2-94 to 5-13-94	Not Started
12	Locational Survey	2-7-94 to 3-30-94	Started 6-30-92
13	Ecological Survey	2-5-94 to 3-13-94	Started 12-1-92
14	Data Validation	6-15-94 to 10-16-94	Started 9-15-92
15	Photography Support	5-4-92 to 6-30-94	Started 5-4-92
16	Technical Memoranda Preparation	9-1-94 to 4-4-95	Started 12-1-92
17	CA Reports	11-16-94 to 11-29-94	Not Started
18	Groundwater Modelling	-----	-----

ATTACHMENT A



Inter-Office Correspondence

TO: Rao Angara
cc. Eric Blomberg

FROM: Salvatore Consalvi (FOL)

DATE: 08/02/93

SUBJECT: Monitoring Well Installation Shift XV Report

DURATION: 07/26/93 - 08/02/93

WEATHER: Sunny and hot, 80-100 degrees, at times, overcast and rainy.
Lightning and thunderstorms caused weather delays.

ABB-ES Personnel:

Salvatore Consalvi (FOL): 07/26/93 - 08/02/93
Gerry Walker (HSO): 07/26/93 - 08/01/93
Roger Protzman (Team Member): 07/26/93 - 08/02/93

Groundwater Protection, Inc. (GPI) Personnel:

Donald H. Stevison (Driller): 07/26/93 - 08/02/93
Craig Labrosse (Lead Helper): 07/26/93 - 08/02/93
Larry Davenport (Runner/Developer): 07/26/93 - 08/02/93
Eric J. Hull (Helper): 07/26/93 - 08/02/93
Eugene Patterson (Runner/Developer): 07/26/93 - 08/02/93

PURPOSE: To install monitoring wells added to the Phase II-A RI, develop existing wells and conduct additional subsurface soil sampling.

1.0 Executive Summary

The fifteenth shift of the soil boring and monitoring well installation portion of the Phase II-A RI was conducted between 07/26/93 and 08/02/93. A total of 3 monitoring wells were projected to be installed during this shift. The field crews installed 3 monitoring wells during the shift (see Table 1-1) including 1 surface casing. GPI developed 3 wells during the shift and partially developed a fourth. The ABB-ES field crew also conducted soil sampling at Site 2 and the North Field Maintenance Wash Rack (Bldg. 1424).

2.0 Site Reconnaissance/Utility Clearance

Utility clearance for well locations and soil borings at Sites 2, 17, and the wash rack area was conducted during this shift.

As of 05/13/93, GPI has provided copies of permits for 32 monitoring wells installed in the North Field and the Midfield Areas and the remote area sites. The remainder of the permits have not been received to date.

Table 1-1
Monitoring Wells Installed During Shift XV

WELLS INSTALLED	TOTAL DEPTH (FEET BLS)	Screen Length	SURFACE CASING (FEET BLS)
WHF-17-1S	113.5	15	35
WHF-16-5	10	10	NONE
WHF-3-4	121	10	103

Table 1-2
Monitoring Wells Developed During Shift XII through XV

Well Number	Time (hours)
WHF-1-1S	2.25
WHF-1-3	4.25
WHF-1-2	3.3
WHF-18-3	3.5
WHF-2-1	3.9
WHF-17-2	2.5
WHF-1-1	1.0
WHF-17-1S	3.25
WHF-17-3	3.75
WHF-18-3	4.25
WHF-15-4S	3.75
WHF-16-5	5 min. pumped clear

3.0 Health and Safety

An initial health and safety meeting was conducted by Gerry Walker (H&S Officer) prior to the commencement of drilling. Among the topics presented were emergency procedures, locations of the base and local hospitals, avoidance of accidents around the drill rigs and H&S equipment use. Daily H&S meetings were conducted each morning prior to drilling. The meetings covered various subjects including the previous days compliance with H&S procedures and first aid reviews (heat cramps, and proper PPE). The entire list of subjects covered throughout the project along with signatures of attendees is located in the H&S field book.

4.0 Surveying

The FOL contacted Mr. Bill Stiffy (Northwest Florida Engineering) to coordinate the commencement of the final survey. A meeting was scheduled for 9 August 1993 at 10:00 am with Mr. Eric Blomberg.

5.0 Field Analysis

GC field analysis has been performed on the soil samples collected from the screen intervals of several monitoring wells. Compilation of the analytical results is not complete at this time. An OVA and/or Porta-Fid regularly used to analyze soil samples and monitor the breathing zone. GC work was not performed during this shift.

6.0 Procedural Difficulties

The following procedural difficulties were encountered during the Shift XV.

6.1 Monitoring Well Installation

1. WHF-3-3S has a PVC pipe from Shift XII in the well. The material will be removed during the next shift.
2. Maintenance delays encountered during the previous shifts were eliminated during Shift XV.

6.2 Mechanical Delays

1. The DI trailer will be returned to Tallahassee at the end of this shift to be thoroughly serviced. This is being done in response to GC hits from DI samples.

6.3 Weather Delays

Drilling at the site had to be stopped due to storm and lightning watch at approximately 1600 hrs. on 7/28/93.

7.0 Deviation from Workplan

7.1 Monitoring Well Location

All wells installed this shift were among the twelve additional monitoring wells added to the Phase II-A program. Additional soil samples were added to Site 2 and 12 (Memorandum, Technical Leader 7/7/93). They were collected during this shift.



Inter-Office Correspondence

TO: Rao Angara
cc. Eric Blomberg

FROM: Salvatore Consalvi (FOL)

DATE: 08/26/93

SUBJECT: Monitoring Well Installation Shift XVI Report

DURATION: 08/16/93 - 08/25/93

WEATHER: Sunny and hot, 80-90 degrees, at times, overcast and rainy.

ABB-ES Personnel:

Salvatore Consalvi (FOL): 08/16/93 - 08/25/93

Groundwater Protection, Inc. (GPI) Personnel:

Craig Labrosse (Lead Helper): 08/16/93 - 08/25/93

Eric J. Hull (Helper): 08/16/93 - 08/25/93

Eugene Patterson (Runner/Developer): 08/16/93 - 08/25/93

Mike Anderson (Helper): 08/16/93 - 08/ /93

PURPOSE: To develop Phase II-A RI monitoring wells, to install pads around Geraghty and Miller wells and install posts around wells located outside the industrial area.

1.0 Executive Summary

The sixteenth shift of the boring and monitoring well installation portion of the Phase II-A RI was conducted between 08/16/93 and 08/25/93. A total of 22 monitoring wells were projected to be developed during this shift. The field crews completed development of 2 monitoring wells and partially completed 3 others during the shift (see Table 1-1). The crews also installed 19 concrete well pads and 32 protective posts.

Table 1-2
Monitoring Wells Developed

Well Number	Time (hours)
WHF-32-3	8.5
WHF-29-1	2
WHF-29-3	6 (partial)
WHF-13-1 S	3 (partial)
WHF-11-1 S	7 (partial)

2.0 Site Reconnaissance/Utility Clearance

As of 05/13/93, GPI has provided copies of permits for 32 monitoring wells installed in the North Field and the Midfield Areas and the remote area sites. The remainder of the permits have not been received.

3.0 Health and Safety

An initial health and safety meeting was conducted by Sal Consalvi prior to the commencement of development. Among the topics presented were emergency procedures, locations of the base and local hospitals. H&S meetings were conducted periodically throughout the shift.

4.0 Surveying

The FOL contacted Bill Stiffy (Northwest Florida Engineering) to coordinate the commencement of the final survey. Two meetings with Ron Rubin were conducted during the shift to locate the well locations and commence the survey. Mr. Rubin was pulled off the job after the first meeting. When asked why, Mr. Stiffy indicated that locating the wells was taking too long. The FOL reminded Mr. Stiffy that he (FOL) was available to show the crew the wells. It was later indicated that the crew was actually pulled off the site for a different job.

5.0 Procedural Difficulties

The following procedural difficulties were encountered during the Shift XVI.

5.1 Monitoring Well Development

1. The grundfos pump could not produce efficiently and would shut down when the voltage dropped below 115 volts. It was determined that a generator with a voltage regulator was necessary to maintain constant power when pumping deep or silty wells.
2. The WATERA pump did not produce efficiently until the wells were hand bailed of heavy silts and/or sands. It is speculated that sand and silt grains prohibit the ball valve from closing properly thus reducing efficiency.
3. WHF-3-3S has a PVC pipe from Shift XII in the well and may require abandonment and replacement.

5.2 Mechanical Delays

The following mechanical failures were experienced during the drilling operations in shift XV:

1. The GPI support truck broke down during the shift and left the crew without transportation for two days.

5.3 Weather Delays

Two hours rain delay was reported during the shift.

6.0 Deviation from Shift Plan

Pin holes in well casings were canceled due to difficulty and the fear of damaging the well.

**NAVAL AIR STATION WHITING FIELD
WELL INSTALLATION PROGRAM
(3/4/93)**

Boring Number	Completion Date	Proposed Depth (feet)	Actual Depth (feet)	Difference (feet)	Screen Length (feet)	Surface Casing (feet)	Footage Grouted (feet)	Footage Backfilled (feet)	Decon Time (hours)	Protection Level (H & S)	Blacktop Patch (bags)	Concrete Cutting (hours)	Down Time (hours)	Stand By (hours)	Well Development (hours)	Date Developed	Pads Installed	Posts Installed
WHF-16-3D	01-24-93	120	115	-5	10	0	99	0	2	D	0	0	1	0	36	Yes	Yes	No
WHF-16-3II	01-25-93	80	80	0	5	0	68	0	0.75	D	0	0	2	2	7	Yes	Yes	No
WHF-16-3I	01-26-93	50	50	0	5	0	39	0	0.5	D	0	0	0	0	6	Yes	Yes	No
WHF-16-3S	01-22-93	23	20	-3	15	0	2	0	3.5	D	0	0	0	0	1.5	Yes	Yes	No
WHF-15-3D	01-26-93	120	119	-2	10	0	100	0	0	D	0	0	0.75	0	6.75	Yes	Yes	Yes
WHF-32-1	01-22-93	120	100	-20	5	0	91	0	1.5	C & B	0	0.5	0	0	2.5	Yes	Flush	No
WHF-15-3S	02-01-93	50	35	-15	15	0	16	0	0	D	0	0	0.75	0	0.75	Yes	Yes	Yes
WHF-15-3I	02-02-93	80	85	5	10	0	70	0	0	D	0	0	0	0	4.5	Yes	Yes	Yes
WHF-16-4S	02-04-93	40	19	-21	15	0	1	0	1	D	0	0	0	0	2.5	Yes	Yes	No
WHF-16-4II	02-05-93	95	60	-35	10	0	38	0	0.75	D	0	0	0	0	2.5	Yes	Yes	No
WHF-15-6D	02-06-93	120	120	0	10	0	102	0	2	D	0	0	1.5	0.75	4.5	Yes	Yes	Yes
WHF-15-2I	02-04-93	60	60	0	10	0	45	0	2	Mod D	0	0	0	0	2.5	Yes	Yes	Yes
WHF-15-2S	02-04-93	30	30	0	15	0	10	0	0	D	0	0	0	0	4.75	Yes	Yes	Yes
WHF-15-5S	02-06-93	50	66	16	10	0	51	0	3.5	D	0	0	5	0	3	Yes	Yes	Yes
WHF-15-6S	02-06-93	40	41	1	15	0	21.5	0	0	Mod D	0	0	5	0.5	1.5	Yes	Yes	Yes
WHF-16-4D	02-18-93	120	119	-1	10	65	98	0	5.25	Mod D	0	0	1	0	No	Yes	No	
WHF-15-4S	02-19-93*	0	0	0	0	0	0	0	0	Mod D	0	0	1	0	N/A	N/A	N/A	N/A
WHF-16-2I	02-18-93	140	127	-23	10	0	109.5	0	1.5	Mod D	0	0	0	0	2	Yes	Yes	No
WHF-16-2D	Boring Only	170	0	-170	0	143	270	0	2.5	Mod D	0	0	1	0	N/A	N/A	N/A	N/A
WHF-1-2	02-21-93	75	75	0	15	0	56	0	3	Mod D	0	0	1	0	3.3	Yes	No	No
WHF-16-2S	02-21-93	0	46	46	15	0	27	0	1.5	Mod D	0	0	3	0	1.25	Yes	Yes	No
WHF-9-3S	02-25-93	105	105	0	15	77	77	0	2.5	Mod D	0	0	0	0	3.25	Yes	Yes	Yes
WHF-17-2S	03-07-93	120	118.5	-1.5	15	43	99	0	2	Mod D	0	0	5	0.5	2.8	Yes	Yes	Yes
WHF-18-2S	02-22-93	101	105	4	15	0	83.5	0	1.25	Mod D	0	0	0	0	5.25	Yes	Yes	No
WHF-11-3	03-09-93	70	70	0	15	46	45.5	46	3.5	Mod D	0	0	1.5	2.5	4	Yes	Yes	No
WHF-10-2S*	03-23-93	95	112	17	15	85	92	0	2.5	Mod D	0	0	55	0	3	Yes	Yes	No
WHF-5-8S	03-23-93	130	125	-5	15	0	106	0	3.5	Mod D	0	0	0	0	3.25	Yes	Yes	Yes
WHF-13-2S	03-18-93	59	69	10	15	42	50	0	3	Mod D	0	0	6	0	3	Yes	Yes	Yes
WHF-14-2S	03-22-93	95	115	20	15	94	96	0	2.75	Mod D	0	0	1	0	4	Yes	Yes	Yes
WHF-5-10D	03-07-93	180	180	0	10	117	162	0	2	Mod D	0	0	9	0.5	6.75	Yes	Yes	No
WHF-5-9D	04-22-93	180	180	0	10	107	162	0	3	Mod D	0	0	0.5	0.5	4	Yes	Flush	No
WHF-5-10S	04-24-93	130	140	10	10	119	83.5	0	1.25	Mod D	0	0	0.5	0	5	Yes	Yes	No
WHF-5-9S	04-25-93	130	128	-2	10	108	110	0	1	Mod D	0	0	1	0	6.5	Yes	Flush	No
WHF-5-8D	04-24-93	180	179.5	-0.5	15	0	161	0	2.5	Mod D	0	0	1.5	0	3.25	Yes	Flush	No
WHF-BKG-2	04-27-93	120	107	-14	15	0	84	0	1.5	Mod D	0	0	0	0	2.75	Yes	Yes	No
WHF-BKG-3	04-28-93	120	79	-41	15	0	54	0	3.5	Mod D	0	0	0	0	2	Yes	Yes	No
WHF-15-4S	04-28-93	90	107	17			84	0	1.5	Mod D	0	0	* 1	0	3.73	Yes	Yes	No
Shift X																		
WHF-3-3S	5/6/93	115	110	-5	10	0	93	0	4	Mod D	0	0	0	0	1.5	Yes	Flush	No
WHF-3-3D	5/12/93	180	180	0	10	112.5	162	0	10	Mod D	0	0	1.5	0	1	Yes	Flush	No
WHF-3-2S	5/8/93	115	115	0	15	0	92	0	1	B, Mod D	0	0	2.5	0	4.25	Yes	Flush	No
WHF-3-2D	5/10/93	180	180	0	5	0	167	0	1	Mod D	0	0	0	0	3	Yes	Flush	No
WHF-BKG-1	5/9/93	120	118	-2	15	0	95	0	1	Mod D	0	0	0	0	3.5	Yes	Yes	No
WHF-6-3	5/9/93	130	124	-6	15	0	101	0	3.5	Mod D	0	0	24	0	4	Yes	Flush	No
Shift XI																		
WHF-3-7D	5-25-93	180	180	0	5	109	168	0	3.5	Mod D	0	0	2.5	0	4.5	Yes	Flush	No
WHF-3-7I	5-26-93	150	140	-10	5	109	128	0	3.5	Mod D	0	0	1	0	4.5	Yes	Flush	No
WHF-6-1D	05-19-93	180	180	0	5	112	167	0	1.5	Mod D	0	0	0	0	3.5	Yes	Flush	No
WHF-6-1S	5-20-93	130	133	3	15	112	109	0	1.5	D	0	0	1.5	0	3.5	Yes	Flush	No
WHF-33-5	5-21-93	120	125	5	15	0	102	0	1.5	D	0	0	0	0	3.75	Yes	Flush	No

**NAVAL AIR STATION WHITING FIELD
WELL INSTALLATION PROGRAM**
(3/4/93)

Boring Number	Completion Date	Proposed Depth (feet)	Actual Depth (feet)	Difference (feet)	Screen Length (feet)	Surface Casing (feet)	Footage Grouted (feet)	Footage Backfilled (feet)	Decon Time (hours)	Protection Level (H & S)	Blacktop Patch (bags)	Concrete Cutting (hours)	Down Time (hours)	Stand By (hours)	Well Development (hours)	Date Developed	Pads Installed	Posts Installed
WHF-32-5	5-24-93	120	109	-11	15	0	86	0	4	Mod D,D	0	0	0	0	3	Yes	Flush	No
WHF-30-1	Boring Only	140	0	-140	0	0	129	0	2	B	0	0	0	0	0	N/A	N/A	N/A
WHF-5-OW-2A	Cased	130	0	-130	0	117	117	0	2	D	0	0	1	0.25	0	N/A	N/A	N/A
Shift XII																		
WHF-3-7 S	8--93	115	123	8	10	109	105	0	1	Mod D,D	0	0	0.75	0	16.5	Yes	Flush	No
WHF-3-1 D	6-11-93	180	180	0	5	104	167	0			0	0	1.5	0	6	Yes	Flush	No
WHF-3-1 S	6-12-93	115	123	8	10	105	105	0	2.5	D	0	0	1.5	0	6.5	Yes	Flush	No
WHF-30-4	6-15-93	140	138	-2	15	0	114	0	2.5	D	0	0	* 0	0		No	Flush	No
WHF-30-3	6-16-93	140	135	-5	15	0	112	0	2	D	0	0	0	0		No	Flush	No
WHF-29-1	6-8-93	140	140	0	15	0	117	0	2.5	D	0	0	0	1	2	Yes	Flush	No
WHF-29-5	6-9-93	140	132	-8	15	0	109	0	1.5	D	0	0	0	0		No	Flush	No
WHF-29-4	6-10-93	140	139	-1	15	0	117	0	1.5	B,D	0	0	0	0		No	Flush	No
WHF-29-3	6-11-93	140	139	-1	15	0	116	0	2	B,D	0	0	0	0	8	partial	Flush	No
WHF-29-2	6-13-93	140	137	-2	15	0	114	0	3	B,D	0	0	0	0		No	Flush	No
WHF-33-1	6-15-93	130	127	-3	15	0	105	0	2	B,D	0	0	0	0		No	Flush	No
WHF-33-4	6-16-93	130	128	-2	15	0	105	0	1.5	D	0	0	0	0		No	Flush	No
Shift XIII																		
WHF-30-5	6-25-93	140	159	9	10	0	139	0	1.75	D	0	0	0	0	1.75	Yes	Flush	No
WHF-30-4	6-26-93	140	135	-5	15	0	115	0	0	D	0	0	0	0		No	Flush	No
WHF-1-1 S	6-28-93	75	72	-3	15	0	53	0	0	D	0	0	0	0	2.25	Yes	Yes	No
WHF-1-3	6-29-93	75	85	10	15	0	86	0	1.5	D	0	0	0	0	4.3	Yes	Yes	No
WHF-33-3	6-23-93	130	128	-2	15	0	104	0	2	D	0	0	0	0		No	Flush	No
WHF-33-2	6-25-93	130	128	-2	15	0	109	0	2	D	0	0	0	0		No	Flush	No
WHF-32-3	6-26-93	120	110	-10	15	0	91	0	2	B,D	0	0	0	0	8.5	Yes	Flush	No
WHF-32-2	6-28-93	120	110	-10	15	0	90.5	0	2	B,D	0	0	0	0		No	Flush	No
WHF-32-4	6-29-93	120	110	-10	15	0	91	0	0.5	D	0	0	0.75	0		No	Flush	No
WHF-18-3	6-27-93	120	110	-10	15	0	95	0	1	D	0	0	0	0	3.5	Yes	Yes	No
Shift XIV																		
WHF-17-3	7-16-93	120	124	4	15	0	105	0	2.5	D	0	0	0	0	3.75	Yes	Yes	No
WHF-2-1	7-17-93	90	85	-5	15	0	55	0	1.5	D	0	0	0	0	3.9	Yes	Yes	No
WHF-15-2D	7-18-93	110	109.6	-0.4	5	0	100	0	1.75	D	0	0	0	0		No	Yes	No
WHF-13-1S	7-20-93	70	58	-12	15	0	38	0	1.5	MOD D	0	0	0	0	3	partial	Yes	No
WHF-11-1S	7-21-93	70	51	-19	15	0	31	0	1.5	MOD D	0	0	0	0	7	partial	Yes	No
Shift XV																		
WHF-3-4	7-31-93	115	121	6	10	42	105	0	3.25	MOD D	0	0	0	0		No	Yes	No
WHF-17-1S	7-27-93	120	113.5	-6.5	15	35.5	93	0	1	MOD D	0	0	0	0	3.25	Yes	No	No
WHF-16-5	7/27/93	15	10	-5	10	0	0	0	0	D	0	0	0	0	0.08	Yes	No	No
Total		9008	8441.1	-567.9	950	2113	7446	46	156.25		0	0.5	142.5	8.5	172.36			